Chapter 6

Recreation

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INTRODUCTION

A full discussion of the affected environments for Alternative 4, "EBMUD-Only Lower American River Delivery," Alternative 5, "Sacramento River Delivery," Alternative 6, "Freeport East Delivery," and Alternative 7, "Freeport South Delivery," was provided in the 1997 DEIR/EIS. The facilities, activities, and uses associated with each affected water resource, including the Folsom Reservoir, Lake Natoma, Lower American River, Pardee Reservoir, Camanche Reservoir, Mokelumne River, and Sacramento River, are covered in depth in that document, and this information is summarized below. Since the affected environment for Alternative 8, "Bixler Delivery," was not contained in the 1997 DEIR/EIS, additional information is provided in the "Affected Environment" section below.

AFFECTED ENVIRONMENT

Implementation of the project alternatives could affect recreational opportunities primarily at Folsom Reservoir, the lower American River, Pardee Reservoir, Camanche Reservoir, and the Mokelumne River below Camanche Reservoir.

Folsom Reservoir

Facilities and Activities

Folsom Reservoir is part of the Folsom Lake State Recreation Area (SRA), which is managed by the California Department of Parks and Recreation (DPR). The SRA encompasses both Folsom Reservoir and Lake Natoma. When full, Folsom Reservoir has a surface area of 11,450 acres, 75 miles of shoreline, and a surface elevation of 466 feet above mean sea level (msl).

Folsom Reservoir accommodates a variety of water-dependent recreational activities, including boating, fishing, swimming, jet skiing, windsurfing, and sailing. Water-enhanced activities include camping, picnicking, and hiking. The reservoir has eight boat ramps at five different use areas around the lake. Major shoreline use areas are Beals Point, Granite Bay, and Rattlesnake Bar on the western shoreline; Dike 8, Mormon Island, and Brown's Ravine Marina on the southern and eastern shorelines; and the Peninsula Campground between the north and south forks of the American River. Brown's Ravine Marina has 670 berthing slips for year-round mooring and a watercraft rental business.

Use

Annual visitation to the entire Folsom Lake SRA is approximately 1,000,000 visits (Woods pers. comm.). The SRA is one of the most visited units in the California state park system, primarily because of its proximity to the Sacramento metropolitan area, the arid summer climate, and high regional interest in recreation (U.S. Army Corps of Engineers 1991).

Water-dependent activities dominate Folsom Reservoir recreation, accounting for more than 80 percent of annual use. Boating is the most popular activity at the reservoir, followed by swimming and fishing (California Department of Parks and Recreation 1989).

Approximately 85 percent of Folsom Reservoir's annual recreation visits are between April and September. Approximately 95 percent of day-use recreationists and 33 percent of overnight recreationists originate from the Sacramento Valley.

Lake Natoma

Lake Natoma covers an estimated 500 acres and is just downstream of Folsom Reservoir. The lake has approximately 10 miles of shoreline with a typical daily drawdown of approximately 3 to 4 feet (California Department of Parks and Recreation 1989). Water-dependent activities include fishing, nonmotorized boating, and windsurfing. Lake facilities include the California State University,

Sacramento, aquatic center; several picnic areas; and an eight-mile-long segment of the Jedediah Smith National Recreation Trail.

Lower American River

Facilities and Activities

The lower American River extends for 23 miles between Folsom Reservoir and the confluence with the Sacramento River. The river passes through the American River Parkway, a 6,000-acre open space corridor extending between Nimbus Dam and the river's confluence with the Sacramento River (U.S. Army Corps of Engineers 1991).

The parkway has 14 county parks that provide user access. The Jedediah Smith National Recreation Trail provides bicycling, hiking, and horseback riding opportunities from Discovery Park to the Folsom Lake SRA (U.S. Army Corps of Engineers 1991).

The lower American River is a major site for recreational boating (rafting, kayaking, and canoeing), fishing, swimming, and wading. The most popular reach for rafting is from Sunrise Avenue to Goethe Park. Both shoreline and boat fishing take place throughout the river. Fishing is mainly for salmon, steelhead, and shad.

Use

Total annual use of the parkway is approximately five million visitors. Water-dependent activities accounted for an estimated 32 percent of total annual use. Boating, particularly rafting, is the most popular water-dependent activity at the river, followed by fishing and swimming (U.S. Army Corps of Engineers 1991). Approximately 90 percent of the annual rentals of commercial rafts occur between Memorial Day and Labor Day (U.S. Army Corps of Engineers 1991).

Pardee Reservoir

Facilities and Activities

Pardee Reservoir is owned and operated by EBMUD. Water-contact recreation is not allowed on the reservoir. When full, Pardee Reservoir has a surface area of 2,200 acres, 43 miles of shoreline, and a surface elevation of 568 feet above msl. Water-dependent activities include boating and fishing. Shoreline access for anglers is provided at Boathouse Cove, Marina Cove, Woodpile Gulch, and Stoney Creek Landing. Anglers fish for coldwater species, such as rainbow trout and kokanee salmon, and warmwater species, such as bass and catfish (Pierner pers. comm.).

Use

An estimated 100,000 visits occur annually at Pardee Reservoir. Day-use activities account for about 70 percent of annual visitation. The most popular day uses are water-dependent activities such as fishing and boating (Pierner pers. comm.).

Most recreational use at Pardee Reservoir takes place during spring and early summer (March–June); however, when ambient temperatures are cold, activities such as fishing decline. Although Pardee Reservoir is not as popular as Camanche Reservoir during summer because of restrictions on water-contact activities, the three summer holiday weekends (Memorial Day, July 4th, and Labor Day) attract full-capacity crowds. Public access to the reservoir is not allowed from mid-November to mid-February, the migratory waterfowl season (Pierner pers. comm.).

Camanche Reservoir

Facilities and Activities

Camanche Reservoir is owned and operated by EBMUD. When full, Camanche Reservoir has a surface area of 7,700 acres, 53 miles of shoreline, and a surface elevation of 236 feet above msl. Recreational facilities include 15,000 acres of recreation lands, two main recreation areas with tent and recreational vehicle camp sites, two marinas, and three paved boat ramps.

Water-dependent recreational activities include swimming, waterskiing, jet skiing, windsurfing, and fishing. Waterskiing is restricted in the upper reservoir arms. Anglers

fish for coldwater species, such as rainbow and brown trout, and warmwater species, such as channel and white catfish; sunfish; crappie; largemouth, smallmouth, and spotted bass; and white sturgeon (BioSystems Analysis 1992).

Use

Annual visits to Camanche Reservoir approach 400,000. Use at Camanche Reservoir is equally divided between day and overnight use. Boating is the most popular activity at the reservoir, followed by fishing and camping (Pierner pers. comm.). Camanche Reservoir is open throughout the year. Most recreationists participate in water-dependent activities during the peak summer recreation season, and most visits take place in July.

Mokelumne River

Facilities and Activities

The lower Mokelumne River extends for approximately 40 miles between Camanche Reservoir and the Delta. Most of the lower Mokelumne River traverses private rural lands. Major public recreational facilities on the river are EBMUD's Mokelumne River Day Use Area on McIntire Road near Camanche Reservoir, San Joaquin County's Stillman McGee County Park on Mackville Road near the town of Clements, and the City of Lodi's Lake Lodi Park near the community of Woodbridge.

Facilities at the Mokelumne River Day Use Area consist of parking, picnic areas, portable toilets, and river access. Popular water-dependent activities include fishing, wading, swimming, canoeing, kayaking, and tubing (Moranton pers. comm.). Important game fish are American shad, chinook salmon, and steelhead.

Use

No comprehensive estimates of the number of recreation-related visits to the lower Mokelumne River are available, because recreational activities are generally dispersed along the length of the river, and no single recreation entity administers all the recreational and access facilities.

Other Reservoirs and Rivers

Recreational opportunities at Shasta Lake, Trinity Lake, and the Sacramento River could also be affected by the project alternatives. Similar to Folsom Reservoir and the lower American River, each of these reservoirs and the Sacramento River provide various water-dependent and water-enhanced recreational opportunities.

Shasta Lake

Shasta Lake is a unit of the Whiskeytown–Shasta–Trinity National Recreation Area (NRA). Recreational facilities and activities are administered by the U.S. Forest Service (USFS). At full pool, the lake has a surface area of approximately 30,000 acres, 370 miles of shoreline, and a surface elevation of 1,067 feet above msl. The lake has four main arms: the Sacramento River, McCloud River, Pit River, and Squaw Creek.

Water-dependent activities include power boating, house boating, waterskiing, and fishing. Water-enhanced activities include camping and sightseeing. Recreational use at Shasta Lake averages about 2.4 million visitor days per year, with an estimated 75 percent of the recreational use between May and September. Facilities include 6 public boat ramps, 13 private marinas, and 22 public campgrounds (U.S. Bureau of Reclamation 1997).

Trinity Lake

Trinity Lake is a unit of the Whiskeytown–Shasta–Trinity NRA, with recreational facilities and activities administered by the USFS. Water-dependent activities include power boating, house boating, waterskiing, and fishing. Water-enhanced activities include camping and sightseeing.

Recreational use at Trinity Lake averages about 260,000 visitor days per year, with an estimated 85 percent of the total recreational use at Trinity Lake between May and September. Facilities at Trinity Lake include 4 marinas, 10 boat ramps, and 20 campgrounds (Jones & Stokes Associates 1996).

Sacramento River

The Sacramento River extends for 300 miles between Keswick Reservoir and the Delta. Public access points are administered by various city and county entities along with the State of California and the U.S. Bureau of Land Management. Popular water-dependent activities include boating and fishing. Water-enhanced activities include camping, hiking, and sightseeing. In 1980, during the last recreation-user survey completed for the entire river, total annual recreational use was estimated to total approximately two million six-hour visitor days (Jones & Stokes Associates 1996).

Indian Slough

Facilities and Activities. Indian Slough branches off of the Old River in Contra Costa County just north of Woodward Canal and runs west approximately two miles across the top of the residential development at Discovery Bay. At the terminus of this stretch of the slough, a second section extends north and east, through Orwood Island and Palm Tract, to converge with the Old River again approximately 3.5 miles north of the original southern confluence.

Discovery Bay houses several marinas with access to the slough. Similarly, Orwood Resort, a local marina located just east of the intersection of Bixler and Orwood Roads, provides boating access to the northern portion of the slough.

Indian Slough accommodates a variety of water-dependent recreational activities, including boating, fishing, swimming, jet skiing, and sailing.

Use. Although boats commonly launch from Orwood Resort, the narrow and isolated nature of the north-south portion of the slough makes recreational activities more popular in the vicinity above Discovery Bay. Although water-dependant activities are most popular in the summer season, the slough is accessible throughout the year.

ENVIRONMENTAL CONSEQUENCES

As described in Chapter 6 of the 1997 DEIR/EIS, each project alternative was evaluated to determine if recreation impacts would occur as a result of changes in reservoir storage, river flows, or disruption of activities associated with facility construction. As a result, the assessment focuses on impacts on water-dependant recreational opportunities at Folsom Reservoir, the lower American River, Lake Camanche, Pardee Reservoir, the lower Mokelumne River, and Sacramento River.

Project level impacts were evaluated by comparing the different alternatives with Alternative 1, "No Action."

Methods and Assumptions

As described in the 1997 DEIR/EIS, the analysis of water-dependent and water-enhanced recreation was based on PROSIM and EBMUDSIM hydrological modeling. Since publication of the 1997 DEIR/EIS, several updates to PROSIM have occurred, including the model's enhanced ability to simulate EBMUD deliveries from the American River basin. As a result, the alternative comparisons in this document are based on the most current PROSIM 99 modeling results and may present baseline figures that vary slightly from those presented in the 1997 DEIR/EIS.

PROSIM and EBMUDSIM data were evaluated against the standards laid out in the Hodge Decision, SWRCB historical data, and the CVPIA Programmatic EIS (see Table 6-1 in the 1997 DEIR/EIS). Estimations of changes in both reservoir hydrology and river flows were used to evaluate potential recreational opportunity impacts on water resources affected by the proposed project. Evaluations focused on the busiest or "peak" recreation seasons, with the peak-use season being defined as April through September for reservoirs and May through September for rivers. An off-season analysis was conducted for the reservoirs given the popularity of boating during the fall, winter, and spring but was not conducted for rivers due

to their infrequent recreational use outside the peak season.

Significance Criteria

As described in the 1997 DEIR/EIS, impacts on both water-dependent and water-enhanced recreational opportunities were considered significant if changes in river flows or reservoir surface elevations would result in substantial changes in recreational opportunities when compared to Alternative 1, "No Action," or if operation or construction activities related to the placement of project facilities would cause a substantial long-term disruption of any institutionally recognized recreational activities.

Impacts Found to Be Less Than Significant

Alternative 4: EBMUD-Only Lower American Delivery

The impacts on recreational opportunities that would result from implementing Alternative 4 are very minor and essentially identical to those outlined in the 1997 DEIR/EIS for both Alternative 2, "Folsom South Canal Connection," and Alternative 3, "Joint Water Supply." These minor effects include:

- Small changes in water-dependent and water-enhanced recreational opportunities at Folsom Reservoir.
- Changes in water-dependent recreational opportunities in the lower American River below Nimbus Dam.
- Temporary disruption of recreational opportunities on the lower American River associated with construction and operation of the intake facility.
- Slight change in recreational opportunities at Camanche and Pardee Reservoirs.
- Slight change in water-dependent recreational opportunities on the lower Mokelumne River.
- Very slight change in water-dependent and water-enhanced recreational opportunities at Shasta Lake, Trinity Lake, and the Sacramento River.

In summary, changes in reservoir levels and river flows resulting from the implementation of Alternative 4 would result in small incremental changes in peak-season, water-dependent, and water-enhanced recreational opportunities at Folsom Reservoir, Shasta Lake, Trinity Lake and on the lower American and Sacramento Rivers similar to, but less than those described in the 1997 DEIR/EIS. The small changes in lake levels and river flows would have little effect on water-dependent and water-enhanced activities at any of the above locations and are not significant impacts.

In addition, implementation of Alternative 4 could slightly increase storage at Camanche and Pardee Reservoirs and flows in the lower Mokelumne River in comparison with Alternative 1. This could have a slight beneficial impact on recreational activities and, as a result, is not considered a significant impact.

Finally, any disruption of recreational opportunities near the intake structure (power boating) and on the south side of the levee (walking, biking, running) would be less than significant because access to both areas would be maintained during and after construction and while the facility is operating.

No mitigation is required.

Alternative 5: Sacramento River Delivery
Alternative 6: Freeport East Delivery
Alternative 7: Freeport South Delivery
Alternative 8: Bixler Delivery

The recreational impacts for Alternatives 5, 6, 7, and 8 would be similar to those described above for Alternative 4. Analysis of PROSIM data shows that changes in river flows and reservoir levels would be minimal and would be comparable to, but generally less than, those described in the 1997 DEIR/EIS. As described in Chapter 3 of this REIR/SEIS, flows downstream of Nimbus Dam would not change appreciably under Alternatives 5, 6, 7 or 8,

further illustrating the negligible impacts that these alternatives would have on the lower American River.

Recreational impacts associated with Alternatives 5, 6, 7 and 8 are less than significant. No mitigation is required.

Significant Impacts and Mitigation

Implementation of Alternatives 4, 5, 6, 7, or 8 is not expected to result in significant impacts on recreational opportunities.